

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2005/002148

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G03F7/20 G02B5/20 G02B5/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G03F G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2003/044701 A1 (BOETTIGER ULRICH C ET AL) 6 March 2003 (2003-03-06) figures 1-4 paragraph [0029] - paragraph [0032] paragraph [0037] -----	1-3, 25-35 4-16
X	US 6 545 968 B1 (OAKLEY WILLIAM S) 8 April 2003 (2003-04-08) figures 3a-c column 4, line 49 - column 6, line 10 -----	1-7, 10-13, 16,36,37
X Y	US 5 298 365 A (OKAMOTO ET AL) 29 March 1994 (1994-03-29) figures 20A-20D column 48, line 7 - column 49, line 21 ----- -/--	36,37 4-16

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

20 June 2005

Date of mailing of the international search report

26.09.2005

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2005/002148

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4 229 095 A (MIR ET AL) 21 October 1980 (1980-10-21) figures 2a,2b column 3, line 41 - column 5, line 41 -----	1-3,36, 37 4-16
A	EP 1 172 684 A (USHIODENKI KABUSHIKI KAISHA) 16 January 2002 (2002-01-16) figure 1 abstract -----	25-27

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2005/002148

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See supplemental sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-16, 25-37

Remark on Protest☐
☐

- The additional search fees were accompanied by the applicant's protest.
No protest accompanied the payment of additional search fees.

Continuation of Box III

The International Searching Authority has found that the international application contains multiple (groups of) inventions, as follows:

1. Claims 1-16 and 25-37

Transmission filter device for use in an illumination system for a microlithography projection exposure unit, with a retardation device that can be operated during transmission to produce a position-dependent and time-related retardation effect on the light of the incident light distribution, and a polarisation filter arrangement, the transmission filter arrangement comprising a non-linear optical crystal for producing Pockel's effect.

2. Claims 17-24, 38 and 39

Transmission filter device for use in an illumination system for a microlithography projection exposure unit, with a retardation device that can be operated during transmission to produce a position-dependent and time-related retardation effect on the light of the incident light distribution, and a polarisation filter arrangement, the transmission filter arrangement comprising a retardation element made of a stress-birefringent material and a stressing element with at least one actuator.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2005/002148

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003044701 A1	06-03-2003	US 2004234871 A1	25-11-2004
US 6545968 B1	08-04-2003	NONE	
US 5298365 A	29-03-1994	NONE	
US 4229095 A	21-10-1980	CA 1132912 A1	05-10-1982
		DE 3067501 D1	24-05-1984
		EP 0018060 A1	29-10-1980
EP 1172684 A	16-01-2002	DE 60100830 D1	30-10-2003
		DE 60100830 T2	15-07-2004
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		TW 554197 B	21-09-2003
		US 2002044236 A1	18-04-2002